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Part 1

THE NATIONAL ELECTRIC VEHICLE ACT OF 1991

SEPTEMBER 24, 1991.—Ordered to be printed

Mr. BROWN, from the Committee on Science, Space, and Technology, submitted the following

REPORT

[To accompany H.R. 1538 which on March 20, 1991 was referred jointly to the Committee on Science, Space, and Technology and the Committee on Energy and Commerce.]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 1538) to establish a national electric vehicle research, demonstration, and commercialization program for the United States, and for other purposes, having considered the same, report favorably thereon with an amendment and recommend that the bill as amended do pass.

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The amendment is as follows:

Strike out all after the enacting clause and insert in lieu thereof the following:

SECTION 1. SHORT TITLE.

This Act may be cited as the "National Electric Vehicle Act of 1991".

H703-8

SEC. 2. FINDINGS.

The Congress finds that—

(1) the interstate commerce of the United States depends on motor vehicle transportation, and the accelerated commercialization of electric vehicle technology is desirable to enable American businesses and consumers to actively engage in interstate commerce in a way that effectively achieves environmental, energy, and economic goals;

(2) nearly one-half of the oil consumed in the United States is imported, and of that amount more than one-quarter is imported from the Middle East, where two-thirds of the world's proven oil reserves are located;

(3) the transportation sector accounts for nearly two-thirds of total oil consumed in the United States, and of this amount passenger cars and trucks represent more than 70 percent of the oil used;

(4) the fuel economy of the new car fleet has more than doubled since 1974, yet total United States petroleum consumption in 1989 was approximately the same as in 1974, due primarily to increases in the number of vehicles and the number of vehicle miles traveled each year;

(5) if the United States is to remain competitive in foreign commerce, then the United States transportation sector must become less dependent upon foreign sources of petroleum and more reliant on clean alternative fuels, including electricity, in vehicles;

(6) cost-effective steps to reduce emissions that cause smog and carbon monoxide will help improve environmental quality without also causing damage to commerce and the economy;

(7) beginning in model year 1998, Federal law requires the introduction of clean alternative fuel vehicles (which could include electric vehicles) into vehicle fleets in areas across the United States that fail to meet air quality standards; and

(8) a number of companies doing business in United States interstate and foreign commerce have demonstrated prototype electric vehicles and have indicated a commitment to produce electric vehicles, but Government action is needed to facilitate market forces that will result in wider use of electric vehicles in and affecting United States interstate and foreign commerce.

SEC. 3. DEFINITIONS.

For the purpose of this Act—

(1) the term "associated equipment" means equipment necessary for the regeneration, refueling, or recharging of batteries or other forms of electrical energy used to power an electric vehicle;

(2) the term "comparable conventionally-fueled vehicle" means a vehicle powered by an internal combustion engine that utilizes gasoline or diesel fuel as its fuel source and provides passenger capacity or payload capacity the same or similar to an electric vehicle, as determined by the Secretary;

(3) the term "electric vehicle" means a vehicle primarily powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, or other sources of electrical current, and that may include a nonelectrical source of supplemental power;

(4) the term "other clean alternative fuel vehicle" means a vehicle capable of being fueled by a clean alternative fuel, including methanol, ethanol, or other alcohol (including any mixture thereof containing 85 percent or more by volume of such alcohol with gasoline or other fuels), natural gas, liquefied petroleum gas, and hydrogen;

(5) the term "Secretary" means the Secretary of Energy;

(6) the term "State" means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other Commonwealth, territory, or possession of the United States; and

(7) the term "user" means a person or entity that purchases or leases an electric vehicle.

SEC. 4. AUTHORITY TO OBLIGATE FUNDS.

The authority of the Secretary to obligate funds pursuant to this Act shall be effective for any fiscal year only to such extent and in such amounts as are provided in advance by appropriation Acts.

TITLE I—ELECTRIC VEHICLE AND BATTERY RESEARCH AND DEVELOPMENT PROGRAM

SEC. 101. DEFINITION.

For purposes of this title, the term "advanced battery technology" means electrochemical storage devices, including fuel cells, and associated technology necessary to charge, discharge, recharge, or regenerate such devices, for use as a source of power for an electric vehicle, and any other associated equipment.

SEC. 102. COOPERATIVE PROGRAM.

(a) The Secretary, consistent with the comprehensive plan described in subsection (b) of this section, shall establish a cooperative program with the electric industry, the automobile industry, and such other persons or industries as the Secretary considers appropriate to conduct joint cooperative research and development projects with industry in areas of technology development such as—

(1) high efficiency electric power trains, including advanced motors, motor controllers, and hybrid power trains for vehicle range improvement;

(2) light-weight body structures for vehicle weight reduction;

(3) advanced battery technology with high energy and power for electric vehicle application;

(4) batteries and fuel cells for hybrid vehicle application; and

(5) photovoltaics for application with electric vehicle use.

The Secretary may also include any such projects that were entered into under the Federal Nonnuclear Energy Research and Development Act of 1974 (42 U.S.C. 5901-5920) or the Electric and Hybrid Vehicle Research, Development, and Demonstration Act of 1976 (15 U.S.C. 2501-2514) in the program under this section.

(b)(1) The Secretary shall prepare a comprehensive multi-year program plan for carrying out this title. In the preparation of such plan, the Secretary shall consult with the Administrator of the Environmental Protection Agency, the Secretary of Transportation, the Administrator of the National Aeronautics and Space Administration, the heads of other appropriate Federal agencies, representatives of the electric utility industry, electric vehicle manufacturers and the United States automobile industry, and such other public and private organizations as the Secretary considers appropriate.

(2) The comprehensive plan shall include—

(A) a prioritization of research areas critical to the commercialization of electric vehicles, including advanced battery technology;

(B) the program elements, management structure, and activities, including program responsibilities of Federal agencies and departments;

(C) the program strategies, including technical milestones to be achieved toward specific goals during each fiscal year, for all major activities and projects;

(D) the estimated costs of individual program elements, including estimated costs for each of the fiscal years of the plan for each of the participating Federal agencies or departments;

(E) a description of the methods of technology transfer;

(F) the proposed participation by non-Federal entities in the implementation of the plan; and

(G) such other information as the Secretary considers appropriate.

(3) Not later than 180 days after the date of enactment of this Act, the Secretary shall transmit the comprehensive plan to the Congress. Such plan shall be revised and such revision transmitted to the Congress when significant changes are proposed.

(c) Not later than 240 days after the date of enactment of this Act, the Secretary shall request proposals or seek to negotiate joint cooperative research and development projects under this section.

(d) The contribution of the United States to any project under this title shall not exceed 50 percent.

(e) The Secretary shall conduct evaluations, arrange for tests and demonstrations, and disseminate to non-Federal entities information, data, and materials necessary to support efforts undertaken pursuant to this section.

SEC. 103. TECHNOLOGY TRANSFER PROGRAM.

(a) The Secretary shall conduct a program designed to accelerate wider application of advanced electric vehicle technology, including advanced battery technologies.

(b) The Secretary, in carrying out the program authorized by subsection (a), shall—

(1) undertake an inventory and assessment of advanced electric vehicle technologies and their commercial capability; and

(2) develop a Federal-industry information exchange program to improve technology transfer, which may consist of workshops, publications, conferences, and a data base for use by the public and private sectors.

SEC. 104. REPORT ON ENCOURAGING THE PURCHASE AND USE OF ELECTRIC VEHICLES.

Within 18 months after the date of enactment of this Act, the Secretary shall submit to the Congress and the President a report on methods for encouraging the purchase and use of electric vehicles. Such report shall focus on the potential cost of purchasing and maintaining electric vehicles, including the initial high cost of the batteries and the cost of replacement batteries, and shall identify methods for reducing, subsidizing, or sharing such costs. Such report shall also include recommendations for legislative and administrative measures to support and encourage the purchase and use of electric vehicles.

SEC. 105. CONSULTATION.

The Secretary shall consult with the Administrator of the Environmental Protection Agency and the Secretary of Transportation in carrying out this title.

SEC. 106. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary to carry out this title $52,432,000 for fiscal year 1992, $68,000,000 for fiscal year 1993, $80,000,000 for fiscal year 1994, $85,000,000 for fiscal year 1995, $90,000,000 for fiscal year 1996, $95,000,000 for fiscal year 1997, and $100,000,000 for fiscal year 1998. Amounts authorized under this section shall be derived from sums otherwise authorized to be appropriated.

TITLE II—ELECTRIC VEHICLE COMMERCIAL DEMONSTRATION PROGRAM

Subtitle A—Electric Vehicle Cost-Share Commercial Demonstrations

SEC. 201. DEFINITIONS.

For purposes of this subtitle—

(1) the term "eligible metropolitan area" means—

(A) any ozone nonattainment area classified under subpart 2 of part D of title I of the Clean Air Act as Serious, Severe, or Extreme;

(B) any carbon monoxide nonattainment area with a carbon monoxide design value at or above 16.0 parts per million, but does not include carbon monoxide nonattainment areas in which mobile sources do not contribute significantly to carbon monoxide exceedances; or

(C) any metropolitan statistical area with a 1990 population of 200,000 or more; and

(2) the term "price differential" means—

(A) in the case of a purchased vehicle, the difference between the manufacturer's suggested retail price of such vehicle and the manufacturer's suggested retail price of a comparable conventionally-fueled vehicle; and

(B) in the case of a leased vehicle, the difference between the monthly lease payment of such vehicle and the monthly lease payment of a comparable conventionally-fueled vehicle.

SEC. 202. APPLICATIONS.

(a) Not later than one year after the date of enactment of this Act, the Secretary shall request proposals to demonstrate electric vehicles or electric vehicles and associated equipment in one or more eligible metropolitan areas.

(b) Additional requests for proposals may be made if the Secretary determines that the responses to prior requests for proposals are inadequate. Requests for proposals under this section shall not require that proposals be submitted within any specified period of time in order to be eligible.

(c) The request for proposals shall require the proposals to include a description of the proposer, the manufacturer, the proposed users, and the eligible metropolitan area, the number of vehicles to be demonstrated and their type, characteristics, and life-cycle costs, the price differential, the proposed discount payment, the contributions of State or local governments and other parties to the demonstration project, and any other information the Secretary requires to make selections under section 203.

SEC. 203. SELECTION OF PROPOSERS.

(a) After consulting with the Secretary of Transportation, the Secretary of Commerce, and the Administrator of the Environmental Protection Agency, and not later than 240 days after a request for proposals has been made under section 202, the Secretary may select one or more proposals to receive financial support pursuant to section 204.

(b)(1) The Secretary may not select more than a total of 10 demonstration projects under this section unless the Secretary determines that the total amount of funding available is not likely to be utilized by those demonstration projects which have been selected.

(2) No one project selected under this section shall receive more than 25 percent of the funds made available under section 206.

(3) A demonstration project may include electric vehicles in more than one eligible metropolitan area and in more than one State.

(c) In determining whether to select a proposal the Secretary shall consider—

(1) the ability of the proposer to undertake and complete the demonstration project described in the proposal;

(2) the ability of the manufacturer, directly, indirectly, or in combination with the proposer, to develop, assist in the demonstration of, manufacture, distribute, sell, service, and ensure the continued availability of parts for, electric vehicles that are proposed to be included in the demonstration project;

(3) the geographic and climatic diversity of the eligible metropolitan area or areas in which the demonstration project is to be undertaken, when considered in combination with other proposals or other selected demonstration projects;

(4) the suitability of the vehicles for use as a cargo or passenger vehicle;

(5) the environmental impacts of the proposed vehicles;

(6) the long-term technical and competitive viability of the electric vehicles, and the ability of the manufacturer to make and incorporate subsequent advancements, cost reductions, modifications, and technology improvements;

(7) the price differential and the proposed discount payment;

(8) the extent of involvement of State or local government and other parties in the demonstration project, and whether such involvement will permit a reduction of the Federal cost share per vehicle or will otherwise be used to leverage the Federal contribution to be provided among a greater number of electric vehicles; and

(9) other criteria as the Secretary considers appropriate.

(d) The Secretary shall require that—

(1) the electric vehicles will be used primarily in the eligible metropolitan area or areas identified in the proposal;

(2) in the case of automobiles or light duty trucks, the number of electric vehicles to be included in the demonstration project shall be no less than 100 vehicles, expect that the Secretary may select a demonstration project with fewer than 100 vehicles if the Secretary determines that selection of such a proposal will ensure that there is geographic or climatic diversity of the proposals selected and that an adequate demonstration to accelerate the development and use of electric vehicles can be undertaken with fewer than 100 electric vehicles;

(3) in the case of vehicles other than automobiles or light duty trucks, the number of electric vehicles to be included in the demonstration project shall be determined by the Secretary, in a manner so as to ensure that there is geographic or climatic diversity of the proposals selected and that an adequate demonstration to accelerate the development and use of electric vehicles can be undertaken;

(4) as a part of the demonstration project the user or users of the electric vehicles will provide to the proposer and the manufacturer information regarding the operation, maintenance, and usability of the electric vehicles for 5 years after purchase or lease; and

(5) the proposer shall provide such information regarding the operation, maintenance, and use of the electric vehicles as the Secretary may request during the period of the demonstration project.

SEC. 204. DISCOUNTS TO USERS.

(a) The Secretary shall provide a discount payment to a proposer reimbursing the proposer for a discount provided to users if the proposer certifies to the Secretary, in such form and at such time as may be required by the Secretary, that—

(1) electric vehicles have been purchased or leased by a user in accordance with the requirements of this subtitle; and

(2) the proposer has provided to the user a discount in accordance with this subtitle.

(b) Not later than 30 days after receipt from the proposer of certification which the Secretary determines satisfies the requirements of subsection (a), the Secretary shall pay to the proposer the full amount of the discount payment.

(c) The discount payment shall be—

(1) no greater than the price differential;

(2) no greater than the manufacturer's suggested retail price of a comparable conventionally-fueled vehicle; and

(3) used by the proposer solely to reimburse the user for the purchase or lease of an electric vehicle.

(d) The actual purchase price of an electric vehicle, adjusted to reflect the discount payment and any additional reduction that may result from contributions provided by other parties, may not be less than the manufacturer's suggested retail price of a comparable conventionally-fueled vehicle.

SEC. 205. REPORTS TO CONGRESS.

The Secretary shall annually report to Congress on the progress being made, through demonstration projects supported under this subtitle, to accelerate the development and use of electric vehicles.

SEC. 206. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary to carry out this subtitle, $100,000,000 for the 10 fiscal year period beginning with the first full fiscal year after the date of enactment of this Act. Amounts authorized under this section shall be derived from sums otherwise authorized to be appropriated.

Subtitle B—Date Acquisition Program

SEC. 211. ESTABLISHMENT OF PROGRAM.

(a) Not later than 180 days after the date of enactment of this Act, the Secretary, in cooperation with appropriate State, regional, and local authorities, shall establish a data collection program to be conducted in at least 5 geographically and climatically diverse regions of the United States for the purpose of collecting data which would be useful to persons seeking to manufacture, sell, own, or operate electric vehicles or other clean alternative fuel vehicles. Such data shall include—

(1) identification of the number and types of vehicle trips made daily and miles driven per trip, including commuting, business, and recreational trips;

(2) the projections of the Secretary as to the most likely and most efficient complementary combination of electric vehicle or other clean alternative fuel vehicle use and other forms of transit, including rail and other forms of mass transit; and

(3) other appropriate demographic information and consumer preferences.

(b) The Secretary shall consult with interested parties, including manufacturers, public utilities, and State or local governmental entities, to determine the types of data to be collected and analyzed under subsection (a).

Subtitle C—Federal Fleet Demonstration Program

SEC. 221. AMENDMENT OF THE ENERGY POLICY AND CONSERVATION ACT.

(a) Section 400AA(a)(1) of the Energy Policy and Conservation Act (42 U.S.C. 6374(a)(1)) is amended by striking out "or natural gas dual energy vehicles" and inserting in lieu thereof "natural gas dual energy vehicles, or electric vehicles".

(b) Section 400AA(g) of the Energy Policy and Conservation Act (42 U.S.C. 6374(g)) is amended—

(1) by striking out "and" at the end of paragraph (5);

(2) by striking out the period at the end of paragraph (6) and inserting in lieu thereof "; and"; and

(3) by adding at the end the following new paragraph:

"(7) the term 'electric vehicle' means a vehicle primarily powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, or other sources of electrical current, and that may include a nonelectrical source of supplemental power.".

(c) Section 400AA(i) of the Energy Policy and Conservation Act (42 U.S.C. 6374(i)) is amended by adding at the end the following new paragraph:

"(3) There are authorized to be appropriated for the fiscal years 1994, 1995, 1996, 1997, and 1998 such sums as may be necessary to carry out this section.".

TITLE III—ELECTRIC VEHICLE INFRASTRUCTURE DEVELOPMENT PROGRAM

Subtitle A—Infrastructure Joint Venture Program

SEC. 301. DEFINITIONS.

For purposes of this subtitle—

(1) the term "infrastructure" includes support and maintenance services and facilities, electricity delivery mechanisms and methods, regulatory treatment of investment in electric vehicles and associated equipment, consumer education programs, safety and health procedures, and battery availability, replacement, recycling, and disposal, that may be required to enable electric utilities, automobile manufacturers, and others to support the operation and maintenance of an electric vehicle and associated equipment; and

(2) the term "non-Federal person" means an entity not part of the Federal Government that is organized under the laws of the United States, the controlling interest (as defined by the Secretary) of which is held by United States nationals or permanent resident aliens, including—

(A) a for-profit business;

(B) a private foundation;

(C) a nonprofit organization such as a university;

(D) a trade or professional society; or

(E) a unit of State or local government.

SEC. 302. GENERAL AUTHORITY.

The Secretary shall undertake a program to enter into joint ventures with one or more non-Federal persons for cost-shared research, development, or demonstration of an infrastructure program or system designed to support the use of electric vehicles.

SEC. 303. SOLICITATION OF JOINT VENTURES.

(a) Not later than 1 year after funds are appropriated for such purpose under this Act, the Secretary shall solicit proposals for joint ventures. The Secretary shall select no more than 5 different proposals under this subtitle. The proposals to be selected by the Secretary shall represent geographically and climatically diverse regions of the United States. Within 180 days after proposals have been solicited, the Secretary shall select proposals and thereafter enter into negotiations in order to obtain a final agreement where possible between the Secretary and the non-Federal person or persons submitting the proposal selected by the Secretary.

(b) The infrastructure programs for which joint ventures are selected under this section may be designed to address—

(1) the equipping of existing facilities, such as gasoline stations, automobile dealerships, and automobile repair centers, with the ability to service electric vehicles and to provide or service associated equipment;

(2) the installation of charging facilities at private residences, businesses, public buildings, airports, shopping malls, recreation areas, or other areas where such service might be required for the use and operation of electric vehicles;

(3) the feasibility of designing rate structures, rate levels, ratemaking procedures, billing systems, and financing methods related to investment by electric utilities in infrastructure capital-related expenditures;

(4) the conduct of information dissemination and public education programs designed to inform the public about electric vehicles;

(5) the development of safety and health procedures and guidelines related to—

(A) charging equipment and procedures;

(B) safety systems for battery gas emissions, including ventilation at parking facilities; and

(C) battery watering; and

(6) such other requirements as the Secretary considers necessary in order to address the infrastructure needed to support electric vehicles.

(c) The Secretary shall require at least 50 percent of the costs directly and specifically related to any selected proposal to be provided from non-Federal sources.

SEC. 304. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated to the Secretary to carry out this subtitle not to exceed $10,000,000 for each of the 5 fiscal years beginning after the date of enactment of this Act.

Subtitle B—State and Local Incentives Programs

SEC. 311. ESTABLISHMENT OF PROGRAM.

(a) The Secretary shall, within 180 days after the date of enactment of this Act, issue regulations establishing guidelines for comprehensive State electric vehicle and other clean alternative fuel vehicle incentives and implementation plans designed to accelerate the introduction and use of such vehicles. Such guidelines shall address the development, modification, and implementation of such State plans and shall describe those program elements, as described in subsection (c), to be addressed in such plans.

(b) The Secretary, after consultation with the Administrator of the Environmental Protection Agency, shall invite the Governor of each State to submit to the Secretary a State plan within 180 days after the effective date of the regulations issued under subsection (a). Such plan shall include—

(1) provisions designed to result in scheduled progress toward, and achievement of, the goal of introducing substantial numbers of electric vehicles and other clean alternative fuel vehicles in such State by the year 2000; and

(2) a detailed description of the requirements, including the estimated cost of implementation, of such plan.

(c) Each proposed State plan, in order to be eligible for Federal assistance under this subtitle, shall describe the manner in which coordination shall be achieved with Federal and local governmental entities in implementing such plan, and shall include an examination of—

(1) the use of High Occupancy Vehicle (HOV) lanes for electric vehicles and other clean alternative fuel vehicles;

(2) exemption from State sales tax or other State or local taxes imposed on the purchase or operation of motor vehicles;

(3) the introduction of electric vehicles or other clean alternative fuel vehicle into State-owned or operated vehicle fleets;

(4) special parking at public buildings and airport and transportation facilities;

(5) programs of public education to promote the use of electric vehicles or other clean alternative fuel vehicles;

(6) encouragement of State agencies to examine the treatment of sales of electricity for use in electric vehicles or other clean alternative fuels for use in other clean alternative fuel vehicles;

(7) methods by which State and local governments might facilitate—

(A) the availability of clean alternative fuels, including electricity; and

(B) the ability to recharge electric vehicles at public locations;

(8) such other programs and incentives as the State may describe; and

(9) whether accomplishing any of the goals in this subsection would require amendment to State law or regulation.

SEC. 312. FEDERAL ASSISTANCE TO STATES.

(a) Upon request of the Governor of any State with a plan approved under this subtitle, the Secretary may provide to such State—

(1) information and technical assistance, including model State laws and proposed regulations relating to electric vehicles and other clean alternative fuel vehicles; and

(2) grants of Federal financial assistance for the purpose of assisting such State in the development of such plan or in the implementation of such plan or any part thereof.

(b) In determining whether to approve a State plan submitted under section 311, and in determining the amount of Federal financial assistance, if any, to be provided to any State under this section, the Secretary shall take into account—

(1) energy and environmental-related impacts of the introduction and use of electric vehicles or other clean alternative fuel vehicles included in the plan;

(2) the number of electric vehicles or other clean alternative fuel vehicles likely to be introduced by the year 2000 as a result of successful implementation of the plan; and

(3) such other factors as the Secretary considers appropriate.

SEC. 313. GENERAL PROVISIONS

(a) In carrying out this subtitle, the Secretary shall consult with appropriate Federal departments and agencies.

(b) The Secretary shall report annually to the President and the Congress, and shall furnish copies of such report to the Governor of each State participating in the

program, on the operation of the program under this subtitle. Such report shall include—

(1) an estimate of the number of electric vehicles and other clean alternative fuel vehicles in use in each State;

(2) the degree of each State's participation in the program;

(3) a description of Federal, State, and local programs undertaken in the various States, whether pursuant to a State plan under this subtitle or not, to provide incentives for introduction of electric vehicles and other clean alternative fuel vehicles; and

(4) the recommendations of the Secretary, if any, for additional action by the Federal Government.

(c) The Secretary, in consultation with appropriate Federal departments and agencies, representatives of State regulatory commissions and electric utilities, and such other persons as the Secretary considers appropriate, shall undertake or cause to have undertaken a study to determine the means by which electric utilities may invest in, own, sell, lease, or service batteries used to power electric vehicles.

SEC. 314. AUTHORIZATION OF APPROPRIATIONS.

There are authorized to be appropriated for carrying out this subtitle, $5,000,000 for each of the 5 fiscal years beginning after the date of enactment of this Act.

I. Purpose of the Bill

The purpose of the bill is to establish a national electric vehicle research, demonstration, and commercialization program for the United States.

II. Committee Actions

On May 16, 1991, the Subcommittee on Environment held a hearing on H.R. 1538, the National Electric Vehicle Act of 1991. The Subcommittee heard testimony on the three Titles that comprise the bill: Title I establishing the Electric Vehicle and Battery Research and Development Program, Title II establishing the Electric Vehicle Commercial Demonstration Program, and Title III Electric Vehicle Infrastructure Development Program.

Witnesses from the U.S. Department of Energy, the U.S. Advanced Battery Consortium, the automobile manufacturing industry, electric utilities, and researchers commented favorably on the bill. The U.S. Department of Energy noted that the bill was "on target" particularly as far as its ongoing R&D programs. The automobile industry expressed support for the bill, and related the provisions of the bill to their activities in electric vehicle prototype development and commercialization. Utilities, and local authorities from California, New Jersey and Pennsylvania identified local initiatives and the role the legislation could play in assessing their infrastructure development and commercialization efforts. Representatives from Resources for the Future and World Resources Institute commented on the potential for pollution reduction from the introduction of Electric Vehicles.

LEGISLATIVE ACTION

On June 25, 1991, the Subcommittee on Environment approved H.R. 1538, as amended, by unanimous voice vote and ordered the bill reported to the full Committee for further action. On July 30, 1991, a quorum being present, the Committee on Science, Space, and Technology approved H.R. 1538, with amendments, and ordered the bill reported to the full House of Representatives.

III. Background and Need for the Legislation

Energy Security and Air Quality: Imperatives for the Transportation Sector

The Nation's prosperity is inextricably linked to the efficient transportation and mobility of its people, goods, and services. The transportation sector of the economy currently uses about 22 quadrillion BTU's (quads) (approximately 25 percent of total U.S. energy consumption), costing Americans about $200 billion dollars annually. Over the next 20 years, it is expected that U.S. transportation energy use will grow 1.7 percent annually.

Transportation energy use focuses national attention on the issue of energy security due to the fact that this sector is almost totally dependent on petroleum and in 1989 the consumption level in this sector alone exceeded domestic production of oil by 33 percent.

An additional consideration, from the environmental standpoint, is the issue of transportation and air pollution. The transportation sector is a major contributor to urban air pollution. Vehicle emissions typically contain nitrogen oxides, carbon monoxide and unburned hydrocarbons in addition to water vapor and carbon dioxide. Several of these emissions, including hydrocarbons and nitrogen oxides, are major contributors to the creation of ozone in the presence of sunlight.

Ozone is one of the most difficult pollutants to control. The Congressional Office of Technology Assessment estimates that about 100 cities, housing half of the American pollution, do not meet the National standards for ozone, in part due to the presence of ozone precursors emitted from vehicles. At levels above the standard, ozone can cause respiratory difficulties and lung damage.

Other recent findings that relate carbon dioxide and other so-called greenhouse gases to global climate change prompt the consideration of energy supply sources that do not use fossil fuels or that use fuels low in carbon.

Electric vehicles (EV's) are an environmentally attractive alternative to petroleum fueled vehicles, especially in urban areas. By some estimates, EV's could show as much as 97% reduction in major pollution emissions compared to conventional vehicles. Care must be taken, however, to recognize that while EV's can contribute to ozone reductions, the exact effect on this and other pollutants, such as SO_2 and NO_x particulates and CO_2 depend on the utility technology used to generate the electricity used to charge the vehicle batteries.

The Electric and Hybrid Vehicle Research, Development and Demonstration Act of 1976

The Electric and Hybrid Vehicle Research, Development and Demonstration Act of 1976 was conceived at the height of the Nation's first major energy crisis and amid projections of increasingly scarce and costly petroleum resources. The Act established a 5 year program within the Energy Research and Development Administration (later merged into the U.S. Department of Energy) to demonstrate the technical feasibility of electric vehicles in private and business travel.

The Department of Energy undertook a two pronged program to meet the mandate: a site operators program to demonstrate the capabilities of electric vehicles and a concurrent research and development program. This program provided hands on experience of over 500 EV's in various operating environments and resulted in many innovative solutions that have been applied in the development of Electric Vehicle technology. Although private sector commercialization efforts were premature in the face of declining oil prices in the 1980's, research and development efforts continued and resulted in improved EV propulsion systems, components, batteries and the initiation of fuel cell technology development for application in vehicles.

NEW IMPERATIVES FOR ELECTRIC VEHICLES IN THE 1990'S: CLEAN AIR INITIATIVES AT THE LOCAL, STATE, AND NATIONAL LEVEL

Although motor vehicles built today emit far fewer pollutants than those built in the 1960's (up to 60–80 percent less depending on the pollutant), cars and trucks still account for almost half of the emissions of ozone precursors and up to 90 percent of the CO emissions in urban areas. The expected growth in the numbers of vehicles and total miles driven combined with the serious air pollution problems in many urban areas prompted renewed attention to clean air issues in the late 1980's.

State and local organizations in California took the lead in establishing emissions control programs to force large scale use of alternatively fueled vehicles. With approximately 22 million cars now operating in California and projections showing that the total will increase by about 35 percent over the next 20 years, action was considered imperative.

In 1988, the Los Angeles City Council established the so-called "Los Angeles Initiative" to address air pollution problems by fostering a public/private consortium to produce and commercialize electric vehicles. The Initiative authorized City sponsorship of an international competition for private companies to develop, produce and market 10,000 EV's in Southern California by 1995.

In 1989, the South Coast Air Quality Management District developed a comprehensive clean air strategy affecting both stationary and mobile sources. This plan was updated July 12, 1991, to set an interim goal of 200,000 electric vehicles in the L.A. basin by the year 2000 as part of the plan's goal to have a total of 1.4 million electric vehicles in the basin by 2010.

In 1990, the California Air Resources Board adopted standards not only requiring a phase-in of ultra clean cars by 1994, but also, for the first time, mandating production of electric cars. By 1998, two percent of annual California car sales (approximately 40,000 vehicles) are to be electric vehicles. This number increases by 10 percent (approximately 200,00 vehicles) by the year 2003. Given the size of the California vehicle market, this mandate has had a significant planning impact on vehicle makers both here and abroad.

Following in the wake of the California standards, a number of state governments on the east coast began considering adoption of similar standards. These states include Massachusetts, New York, Maine, New Jersey, Maryland, Vermont, Rhode Island, Delaware,

New Hampshire, Connecticut, Virginia, Pennsylvania, and the District of Columbia. By mid-1991, Massachusetts, New York, Maine, New Jersey, and Maryland were pursuing regulatory or legislative action. Other states were in the process of evaluating and assessing their approaches. The Northeast States for Coordinated Air Use Management estimates that adoption of these standards by its eight member states could result in an electric vehicle fleet of between 50,000–100,000 vehicles between 2001–2004.

Other actions at the national level including the Clean Air Act Amendments of 1990 have also provided a forcing mechanism for reducing vehicle pollution. The Act established strict emissions standards beginning in 1996. Further, the Act established a pilot program in California under which 150,000 clean fuel cars are to be sold annually between 1996 through 1998 and increasing in number to 300,000 per year by 1999 and thereafter. The Act defined clean fuel to include electric power.

ELECTRIC VEHICLE TECHNOLOGY: CURRENT STATUS AND BARRIERS TO COMMERCIALIZATION

Environmental and energy security considerations provided the impetus to maintain an ongoing effort of Federal and private sector involvement in developing electric vehicle technology in the 1980's, but widespread commercialization has proven to be elusive. As noted by numerous witnesses in hearings held by the Committee, the American public must be sold not only on the environmental value of EV's, but also on their practical transport, safety and economic value. Customers must be satisfied that the electric vehicle they purchase provides range, performance in acceleration and speed for highway operation, auxiliary equipment for space heating and cooling, trouble free operation comparable to that of petroleum-based vehicles, and a competitive price.

Currently available EV technology, however, is constrained by limited range, performance, limited cargo and passenger capacity, high first costs, and high operating costs due to limited battery lifetime requiring expensive replacements. For example, the driving range of EV's that are in production and pre-production is limited to between 50–100 miles compared to 375 miles achieved by vehicles using internal combustion gasoline engines. Recharging is time-consuming and EV's costs are expected to be significantly higher than conventional vehicles in the near term. However, DOE has projected roughly equal life cycle costs for gasoline vehicles and a 1995 electric vehicle using nickel iron batteries.

Other barriers above and beyond technology and cost considerations that will affect the commercialization of electric vehicles include the lack of a current infrastructure that address operational considerations including sales, service and repair; safety; standardization and connection to the utility system; and charging at home and at public access stations.

In spite of these institutional barriers, it is important to note that niche markets are possible with existing or near term technology. Witnesses have indicated that as many as forty percent of commercial light duty fleet vehicles in major urban areas travel only 60 miles in any given work day. Likewise a niche market can

be anticipated for use of electric vehicles as commuter vehicles or second cars.

INDUSTRY RESPONSE: RENEWED EFFORTS AND PROPOSAL FOR JOINT FEDERAL-INDUSTRY COLLABORATION

The market guarantees in California and potentially other states such as New York and Massachusetts which are considering similar emission standard requirements, have spurred the automobile industry to action.

In January 1990, General Motors unveiled the Impact, a two-seat electric vehicle that offers advanced aerodynamics and components but utilizes current lead acid technology. This preproduction prototype combines high performance (0–60 m.p.h. in 8 seconds) with a range of over 100 miles. This vehicle is an example of a vehicle designed to compete in a limited market. GM has indicated they plan to produce the car in the mid 90's.

Ford has indicated that they are planning to build an international demonstration fleet of 70–100 electric vehicles based on a European Escort van modified to accommodate an advanced power train using sodium sulfur battery technology.

Chrysler announced in January 1991 that they had signed a 28-month agreement with the Electric Power Research Institute (EPRI) to engineer and develop an electric-powered Chrysler minivan for possible commercial production.

The Vehma Corporation (a unit of Magna International) has begun commercial production of a one-ton "G" Van that culminated a four-year EPRI led development effort. This full size electric cargo or passenger van is being marketed to electric utilities for fleet use.

In a major collaboration, Chrysler, Ford and General Motors joined together to form the United States Advanced Battery Consortium (U.S.A.B.C.) in January of 1991. This research consortium will develop and evaluate advanced battery technologies for use in electric vehicles by the mid to late 1990's. The consortium represents a major commitment by the "Big Three" to work together with DOE and EPRI to develop the battery technology necessary to make electric vehicles competitive with internal combustion vehicles. The Bush Administration has endorsed the consortium and submitted an FY 1992 budget request to Congress to fund the consortium on a cost-shared basis.

FORMING A NATIONAL PARTNERSHIP FOR THE 1990'S: CONGRESSIONAL ACTION

The emergence of state, local, and private sector activities, and funding commitments to promote electric vehicles offers an opportunity for the Federal government to work in partnership with initiatives of this sort to expedite development and commercialization of electric vehicle technology. Such national action sends a clear signal to the marketplace that the nation recognizes electric vehicle technology development and demonstration as a key element of energy and environmental policy. H.R. 1538 seeks to help the private sector overcome the technical, market and infrastructue barriers to commercialization through establishment of a comprehen-

sive plan establishing an Electric Vehicle and Battery Research and Development Program, an Electric Vehicle Commercial Demonstration Program, and an Electric Vehicle Infrastructure Development Program.

IV. Committee Views

The paragraphs that follow provide an explanation of the Committee's intent for this legislation. A summary of the appropriations authorized in the bill is as follows:

H.R. 1538, THE NATIONAL ELECTRIC VEHICLE ACT OF 1991

FUNDING (BY TITLE)

[Dollars in millions]

Title (Description)	Fiscal year—						
	1992	1993	1994	1995	1996	1997	1998
Title I (R&D) [1]	52.432	68	80	85	90	95	100
Title II, Subtitle A (Demonstration) [2]	[1]100						
Title II, Subtitle B (None)							
Title II, Subtitle C (Federal Fleet) "such sums as necessary" through FY 98							
Title III, Subtitle A (Joint Ventures)	[3] 10	10	10	10	10		
Title III, Subtitle B (State & Local Incentives)	[3] 5	5	5	5	5		

[1] Funding to be derived from sums otherwise authorized to be appropriated.
[2] $100 over a ten-year period. Funding would commence in the first fiscal year after enactment of the Act, and continue for a total of 10 years.
[3] Funding would commence in the first fiscal year after enactment of the Act, and continue for a total of 5 years.

Advanced Battery Technology

Section 102 would enhance development of advanced battery technologies by focusing resources on research and development of batteries that ultimately will allow electric vehicles to compete with gasoline powered vehicles. Monies spent under this section should focus on battery technologies that present the most promise for future application. These could include, but are not limited to, lead-acid, nickel-iron, sodium-sulfur, lithium-metal sulfide, lithium-iron sulfide, lithium-aluminum, lithium polymer, nickel-cadmium, zinc-bromine, nickel-metal hydroxide, iron-air, sodium-metal chloride, zinc-air and any other appropriate battery technologies. The potential recyclability of battery materials is also a particularly important area of concern. Performance improvements from the continued research on these battery technologies are likely to result in increases in the electric vehicle's acceptance and marketability, as well as greatly increase the resulting environmental and economic benefits for the nation.

Electric Urban Transit Vehicle Demonstrations

Sections 203(d)(2) and 203(d)(3) reflect the concern of the Committee that the number of vehicles in demonstration projects authorized in the bill should be adequate to ensure an adequate demonstration of electric vehicle technology, while determining the desirability of electric vehicles in a variety of geographic and climatic areas.

Section 203(d)(2) provides that in the case of automobiles and light duty trucks, the number of vehicles to be included in a demonstration project shall be no less than 100, unless the Secretary of Energy determines that an adequate project could be undertaken with fewer vehicles. This subsection is based largely on testimony from witnesses at the hearing of the Subcommittee on Environment, including Kenneth R. Baker of the General Motors Corporation, who stated that a "minimum number of vehicles [for demonstration projects]" is necessary to "demonstrate the capability between these [electric] vehicles and the infrastructure that will service, maintain and otherwise support them."

However, the Committee is concerned that flexibility in fleet sizes for demonstration projects for vehicles such as urban transit buses, minibuses, delivery vehicles, and vans is desirable. At the hearing of the Subcommittee on Environment, Mr. Armando Greco, Executive Director of the Lehigh and Northampton Transportation Authority of Allentown, Pennsylvania, testified that this flexibility is important, because a general target of 100 vehicles or more for larger vehicles (such as urban buses) would "limit the participation to only the largest of communities." At the same time, however, the objectives of a successful demonstration project would be met.

Therefore, Section 203(d)(3) directs the Secretary of Energy to determine the appropriate number of vehicles, in the case of demonstration projects involving vehicles other than automobiles or light duty trucks, to form a demonstration project meeting the technology demonstration and geographic and climatic diversity objectives of Title II.

Electric Vehicle Research, Development, and Demonstration Funds

The Committee recognizes that the electric vehicle battery research and development will continue to be conducted as an activity of the Office of Transportation Technologies, within the Office of Conservation and Renewable Energy of the Department of Energy. The funding authorizations contained in H.R. 1538 for Title I and Title II are not intended to duplicate funds otherwise authorized for the Office of Transportation Technologies, if such legislation has been enacted into law, but merely earmark its share of the total.

In particular, with respect to fiscal years 1992 and 1993, the Committee has passed legislation authorizing the R&D activities of the Office of Transportation Technologies (H.R. 2399, the Energy Technology Research and Development Authorization Act of 1991), including those authorized under H.R. 1538. However, in the event that H.R. 2399 (or other legislation authorizing funding for R&D activities for the Office of Transportation Technologies) is not enacted into law prior to the enactment of H.R. 1538, it is the intent of the Committee that the funding authorizations provided by H.R. 1538 be available for the purpose of implementing the National Electric Vehicle Act of 1991.

V. Section By Section Analysis

The paragraphs that follow provide a section-by-section description of the bill.

SECTION 1. SHORT TITLE

Section 1 cites the short title of this Act as the National Electric Vehicle Act of 1991.

SECTION 2. FINDINGS

Section 2 sets forth Congressional findings regarding accelerated research, development, demonstration and commercialization of electric vehicle technology to achieve environmental, energy, and economic goals.

SECTION 3. DEFINITIONS

Section 3 sets forth definitions of electric vehicle, comparable conventionally-fueled vehicle, associated equipment, and other clean alternative fuel vehicle.

SECTION 4. AUTHORITY TO OBLIGATE FUNDS

Section 4 authorizes the Secretary of Energy to obligate funds pursuant to this Act only to such extent and in such amounts as are provided in advance by appropriation Acts.

Title I: Electric Vehicle and Battery Research and Development Program

SECTION 101. DEFINITION

Section 101 defines "advanced battery technology" to mean electrochemical storage devices, including fuel cells, and associated technology to charge such devices, for use as a power source in electric vehicles.

SECTION 102. COOPERATIVE PROGRAM

Section 102 directs the Secretary of Energy to establish a cooperative program with the electric utility industry, the automobile industry, and such other persons or industries to conduct joint cooperative research and development projects in areas of: (1) high efficiency electric power trains; (2) light-weight body structures; (3) advanced battery technology for electric vehicles; (4) primary batteries and fuel cells for hybrid vehicles; and (5) photovoltaics for electric vehicles. Section 102 authorizes the Secretary to include in such program any projects that were entered into under the Federal Nonnuclear Energy Research and Development Act of 1974 or the Electric and Hybrid Vehicle Research, Development, and Demonstration Act of 1976.

Section 102(b) requires the Secretary of Energy to prepare a comprehensive multi-year program plan for implementation of this title. The comprehensive plan shall include a prioritization of research areas critical to commercialization of electric vehicles; the program elements, management structure and activities; program strategies including technical milestones; estimated costs of individ-

ual program elements; a description of methods of technology transfer; proposed participation by non-Federal entities.

SECTION 103. TECHNOLOGY TRANSFER PROGRAM

Section 103 requires the Secretary to conduct a program designed to accelerate wider application of advanced electric vehicle technology, including advanced battery technologies.

SECTION 104. REPORT ON ENCOURAGING THE PURCHASE AND USE OF ELECTRIC VEHICLES.

Section 104 directs the Secretary of Energy to prepare and submit to Congress a report on methods of encouraging purchase and use of electric vehicles focusing on the initial high cost of the batteries and identifying recommendations for reducing, subsidizing, or sharing such costs.

SECTION 105. CONSULTATION

Section 105 requires the Secretary of Energy to consult with the Administrator of the Environmental Protection Agency and the Secretary of Transportation.

SECTION 106. AUTHORIZATION OF APPROPRIATIONS

Section 106 directs that out of the total authorized for energy conservation, $52,432,000 for fiscal year 1992, $68,000,000 for fiscal year 1993, $80,000,000 for fiscal year 1994, $85,000,000 for fiscal year 1995, $90,000,000 for fiscal year 1996, $95,000,000 for fiscal year 1997, and $100,000,000 for fiscal year 1998, are available for the purpose of carrying out provisions of Title I.

Title II: Electric Vehicle Commercial Demonstration Program

Subtitle A: Electric Vehicle Cost-Share Commercial Demonstrations

SECTION 201. DEFINITIONS

Section 201 sets forth definitions of eligible metropolitan area and price differential for the purposes of commercial demonstrations.

SECTION 202. APPLICATIONS

Section 202 requires the Secretary of Energy to request proposals to demonstrate electric vehicles and associated equipment in one or more eligible metropolitan areas.

SECTION 203. SELECTION OF PROPOSERS

Section 203 sets forth specified information to be included in such proposal, authorizes the Secretary to select one or more proposals (not to exceed ten) to receive financial assistance under this section, and sets forth criteria to be used by the Secretary in selecting a proposal.

SECTION 204. DISCOUNTS TO USERS

Section 204 requires the Secretary of Energy to provide a discount payment to a proposer reimbursing such proposer for a dis-

count provided to users of electric vehicles if the proposer makes a specified certification to the Secretary.

SECTION 205. REPORTS TO CONGRESS

Section 205 requires the Secretary of Energy to report annually to the Congress on the progress of demonstration projects to accelerate the development and use of electric vehicles.

SECTION 206. AUTHORIZATION OF APPROPRIATIONS

Section 206 directs that out of the total authorized for energy conservation, $100,000,000 for the ten fiscal year period beginning the first fiscal year after the date of enactment is available for the purposes of carrying out the provisions of subtitle IIA.

Subtitle B: Data Acquisition Program

SECTION 211. ESTABLISHMENT OF THE PROGRAM

Section 211 directs the Secretary of Energy to establish a data collection program to be conducted in at least five geographically and climatically diverse regions in the United States which would be useful to persons seeking to manufacture, sell, own, or operate electric vehicles or other clean alternative fuel vehicles.

Subtitle C: Federal Fleet Demonstration Program

SECTION 221. AMENDMENT TO THE ENERGY POLICY AND CONSERVATION ACT

Section 221 amends the Energy Policy and Conservation Act to add electric vehicles to the list of passenger automobiles and light duty trucks the Secretary of Energy is to maximize use of by the Federal Government.

Title III: Electric Vehicle Infrastructure Development Program

Subtitle A—Infrastructure Joint Venture Program

SECTION 301. DEFINITIONS

Section 301 sets forth definitions of infrastructure and non-Federal person for the purposes of the infrastructure demonstration programs.

SECTION 302. GENERAL AUTHORITY

Section 302 directs the Secretary of Energy to enter into joint ventures with one or more non-Federal persons for cost-shared research, development, or demonstration of an infrastructure program or system designed to support the use of electric vehicles.

SECTION 303. SOLICITATION OF JOINT VENTURES

Section 303 requires the Secretary of Energy to solicit no more than five different proposals for such joint ventures and sets forth requirements for the infrastructure joint ventures.

SECTION 304. AUTHORIZATION OF APPROPRIATIONS

Section 304 authorizes appropriations of $10,000,000 for each of the five fiscal years beginning after the date of enactment for the purposes of carrying out the provisions of Title III(A).

Subtitle B: State and Local Incentives Programs

SECTION 311. ESTABLISHMENT OF PROGRAM

Section 311 directs the Secretary of Energy to issue regulations establishing guidelines for comprehensive State electric vehicle and other clean alternative fuel vehicle incentives and implementation plans designed to accelerate the use of such vehicles. Section 311 sets forth specified requirements with respect to such State plans.

SECTION 312. FEDERAL ASSISTANCE TO STATES

Section 312 authorizes the Secretary of Energy to provide Federal assistance to States, with approved plans, including grants and technical assistance.

SECTION 313. GENERAL PROVISIONS

Section 313 requires the Secretary of Energy to consult with other appropriate Federal agencies and report annually to the President and Congress on the operation of the programs. Section 313 also requires the Secretary to undertake a study to determine the means by which electric utilities may invest in, own, sell, lease, or service batteries used to power electric vehicles.

SECTION 314. AUTHORIZATION OF APPROPRIATIONS

Section 314 authorizes appropriations of $5,000,000 for the purposes of carrying out this subtitle.

VI. Oversight Findings and Recommendations

Pursuant to Rule XI, Clause 2(l)(3), of the Rules of the House of Representatives, and under the authority of Rule X, Clause 2(b)(1), and Clause 3(f), the results and findings of oversight activities considered by the Committee on Science, Space, and Technology have been adopted and are incorporated in the recommendations found in the present bill and report.

VII. Congressional Budget Act Information

This bill provides new authorization rather than new budget authority and consequently the provision for section 308(a) of the Congressional Budget Act of 1974 are not applicable.

VIII. Congressional Budget Office Cost Estimates

Pursuant to Section 403 of the Congressional Budget Act of 1974 and Rule XI, 2(l)(3) of the Rules of the House of Representatives, the report of the Congressional Budget Office follows:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, August 2, 1991.

Hon. GEORGE E. BROWN, Jr.,
Chairman, Committee on Science, Space, and Technology,
U.S. House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the attached cost estimate for H.R. 1538, the National Electric Vehicle Act of 1991. Enactment of H.R. 1538 would not affect direct spending or receipts. Therefore, pay-as-you-go procedures would not apply to the bill.

If you wish further details on this estimate, we will be pleased to provide them.

Sincerely,

ROBERT D. REISCHAUER.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

1. Bill number: H.R. 1538.

2. Bill title: National Electric Vehicle Act of 1991.

3. Bill status: As ordered reported by the House Committee on Science, Space, and Technology, July 30, 1991.

4. Bill purpose: H.R. 1538 would encourage the development and use of electric vehicles in the U.S. by authorizing more extensive electric vehicle and battery research, development, and commercialization activities within the Department of Energy (DOE). The expanded electric vehicle activities would include:

research projects totaling $570 million over the next 7 years, to be conducted in cooperation with the electric utility and automobile industries to develop high efficiency electric trains, advanced batteries, and other electric vehicle technology;

technology transfer efforts including a federal-industry information exchange program of workshops, publications, conferences, and a data base for use by private institutions involved in commercial sale of electric vehicle technology;

a 10-year, $100 million demonstration program for electric vehicles, focusing on the use of electric vehicles in major metropolitan areas;

broadening an existing program to increase federal use of alternative-fuel vehicles to include electric vehicles (in addition to methanol, ethanol, and natural gas vehicles);

a 5-year, $75 million program of joint ventures with private companies and state and local governments to develop an infrastructure of support and maintenance facilities for electric vehicles.

In addition, the bill would require DOE to collect regional data, including demographic and consumer preference information in support of efforts to successfully commercialize electric vehicles, and to report to Congress on the progress made in accelerating the development and use of such vehicles.

5. Estimated cost to the Federal Government:

[By fiscal year, in millions of dollars]

	1992	1993	1994	1995	1996
Specified Authorization Level [1]	52	93	105	110	115
Estimated Authorizations		1	2	2	2
Total Authorizations	52	94	107	112	117
Estimated Outlays	16	49	85	105	112

[1] The bill states that all but $60 million of the $475 million is specified authorizations over the 1992–1996 period "shall be derived from sums otherwise authorized to be appropriated." The table shows all authorizations.

The costs of this bill fall within budget function 270.

Basis of estimate: Most of the estimated costs for H.R. 1538 activities are specifically authorized in the bill. In addition to the $475 million of specified authorizations for 1992–1996, H.R. 1538 would authorize $270 million for continued electric vehicle support after 1996. Of the total specified authorizations—$745 million over a 10-year period—the bill states that $670 million "shall be derived from sums otherwise authorized to be appropriated," but does not provide any specific source of existing authorizations.

The additional estimated authorizations shown in the table are for the expansion and extension of the federal fleet demonstration program and the electric vehicle data acquisition effort that would be required by the bill. (Under current law, the federal fleet demonstration program has an authorization for $5 million in 1991, $3 million in 1992, and $2 million in 1993).

For the purposes of this estimate, CBO assumes that all funds authorized in H.R. 1538 will be appropriated. Estimated outlays based on historical spending patterns for similar research, development, and commercialization activities conducted by the Department of Energy.

6. Pay-as-you-go considerations: The Budget Enforcement Act of 1990 sets up pay-as-you-go procedures for legislation affecting direct spending or receipts through 1995. CBO estimates that enactment of H.R. 1538 would not affect direct spending or receipts. Therefore, pay-as-you-go procedures would not apply to the bill.

7. Estimated cost to State and local governments: None.

8. Estimate comparison: None.

9. Previous CBO estimate: None.

10. Estimate prepared by: Pete Fontaine.

11. Estimate approved by: C.G. Nuckols for James L. Blum, Assistant Director for Budget Analysis.

IX. Oversight Findings and Recommendations, Committee on Government Operations

No findings or recommendations on oversight activity pursuant to Rule X, Clause 2(b)(2), and Rule XI, Clause 2(l)(3)(D), of the Rules of the House of Representatives have been submitted by the Committee on Government Operations for inclusion in this report.

X. Effect of Legislation on Inflation

In accordance with Rule XI, clause 2(l)(4) of the Rules of the House of Representatives, this legislation is assessed to have no in-

flationary effect on prices and costs in the operation of the national econmy.

XI. Changes in Existing Law Made by the Bill, as Reported

In compliance with clause 3 of Rule XIII of the Rules of the House of Representatives, changes in existing law made by the bill, as reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is printed in italics, existing law in which no change is proposed is shown in roman):

Section 400AA of the Energy Policy and Conservation Act

SEC. 400AA. ALTERNATIVE FUEL USE BY LIGHT DUTY FEDERAL VEHICLES.

(a) Department of Energy Program.—(1) Beginning in the fiscal year ending September 30, 1990, the Secretary shall ensure, with the cooperation of other appropriate agencies and consistent with other Federal law, that the maximum number practicable of the passenger automobiles and light duty trucks acquired annually for use by the Federal Government shall be alcohol powered vehicles, dual energy vehicles, natural gas powered vehicles, [or natural gas dual energy vehicles.] *natural gas dual energy vehicles, or electric vehicles.*

* * * * * * *

(g) Definitions.—For purposes of this part—

(1) * * *

* * * * * * *

(5) the term "natural gas dual energy vehicle" means a vehicle which is capable of operating on natural gas and on gasoline or diesel fuel; [and]

(6) the term "natural gas powered vehicle" means a vehicle designed to operate exclusively on natural gas[.]*; and*

(7) the term "electric vehicle" means a vehicle primarily powered by an electric motor that draws current from rechargeable storage batteries, fuel cells, or other sources of electrical current, and that may include a nonelectrical source of supplemental power.

(i) Funding.—(1) * * *

* * * * * * *

(3) There are authorized to be appropriated for the fiscal years 1994, 1995, 1996, 1997, and 1998 such sums as may be necessary to carry out this section.

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